

Name:  ID:

Email:

## Triangle Classification Practice

### Multiple Choice

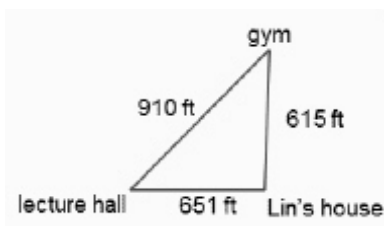
Identify the choice that best completes the statement or answers the question.

- ☐ 1. Ella's geometr teacher asked each student to devise a problem and writeout its solution. Here is Ella's work:

A triangle has side lengths of 10, 11, and 15. What type of triangle is it?  
Procedure:  
 $10^2 \gg 11^2 + 15^2$   
 $100 \gg 121 + 225$   
 $100 < 346$   
Conclusion:  
This triangle is an acute triangle.

Which statement best summarizes Ella's work?

- a. Ellas procedure and conclusion are correct  
b. Ella's procedure is correct, but her conclusion is incorrect  
c. Ella's procedure is incorrect, but her conclusion is correct  
d. Ella's procedure and conclusion are incorrect
- ☐ 2. To get from his houst to the lecture hall at school, Lin walked west 651 feet. After class he walked northeast 910 feet to the gym. Finally he walked 615 feet back to his house from the gym.



What general direction did Lin walk from the gym to his house, and what type of triangle did his walking path form?

- a. Lin walked south, creating a right triangle  
b. Lin walked southwest, creating an obtuse triangle  
c. Lin walked southeast, creating an acute triangle  
d. Lin walked directly east, creating a right triangle.
- ☐ 3. An acute triangle has side lengths 21 cm, x cm, and 2x cm. If 21 is one of the shorter sides of the triangle, what is the greatest possible length of the longest side, rounded to the nearest tenth?
- a. 18.8 cm  
b. 24.2 cm  
c. 42.0 cm  
d. 72.7 cm

### Multiple Response

Identify one or more choices that best complete the statement or answer the question.

4. Which sets of three numbers represent sides of an obtuse triangle? Check all that apply.

☐ 4, 7, 8

a.

☐ 3, 4, 5

b.

☐ 2, 2, 3

c.

☐ 6, 8, 9

d.

☐ 3, 5, 6

e.

5. Marlena has 3 straws. Two straws have the lengths shown. She does not know the length of the shortest straw, but when she forms a triangle with all three, the triangle is obtuse. Which are possible lengths of the shortest straw? Check all that apply.

☐ 5 inches

a.

☐ 6 inches

b.

☐ 7 inches

c.

☐ 8 inches

d.

☐ 9 inches

e.

### Short Answer

6. The distance between city A and city B is 22 miles. The distance between city B and city C is 54 miles. The distance between city A and city C is 51 miles. What type of triangle is created by the three cities?

7. The lengths of two sides of a right triangle are 12 inches and 15 inches. What is the difference between the two possible lengths of the third side of the triangle? Round your answer to the nearest tenth.

